COPTIS TEETA WALL.—LOCAL USES, DISTRIBUTION AND CULTIVATION

Coptis teeta (Family: Ranunculaceae) has been regarded as a rare and threatened species (Hooker and Thomson, 1855; Jain and Sastry, 1980), perhaps due to its restricted distribution and poor material in herbaria. Only one sheet of wild (collected on 4.10.1845) and three of cultivated specimens are present in Central National Herbarium (CAL).

Mrs. Zoro Miso of Hunli (Dibang Valley) planting *Coptis teeta*, brought from wild fields.

This plant contains alkaloids of berberine group and is stomachic. It has little demand in Indian market but has export value. Locally it is used in fevers, specially in malaria and in back-ache. Three slices (about 2 mm thick) of rhizome are soaked in water overnight and the water is given in morning. Some local officials also spoke of its single dose reducing prolonged fevers. Large doses are reported to cause deafness, which gets cured naturally with time.

Exploration (by VM) was done in winter of 1980 in Lohit and Dibang Valley, Arunachal Pradesh to observe wild and cultivated areas under this plant, and to estimate the standing crops.

The plant grows wild at Malenja, Simbi in Kibithoo block of Lohit and Mayodia hills in Dibang Valley. Local tribals and forest officials reported its wild occurrence in Anini and surrounding areas of Dibang Valley, Chhaglagram and Hawai in Lohit. Its cultivation was observed at Suplang (in Hayuliang block, Lohit), Mayodia and Hunli in Dibang Valley. Cultivation is also reported at Khamlaiglat in Lohit and at a few places in Siang and Subansiri.

The number of plants in wild sites is very low. About 4000 kg of *Coptis teeta* rhizomes are reported to be extracted per year. During the current visit about 265.545 kg dry biomass of rhizomes has been estimated in an area of 142.5 ha in wild fields, while 294.378 kg is estimated in 13.86 ha in cultivated fields.

Despite the ban on export since 1978 and insignificant local demand, evidences of extraction, such as fresh broken aerial parts of the plant thrown after digging the rhizomes, were seen in many sites. According to a local dealer of Hayuliang the thickness of rhizomes received from Mishmees was gradually decreasing over the years. Teeta was reported to be growing very commonly in Dibang Valley just 20 years ago.

The method adopted for cultivating *Coptis teeta* was stated to be to leave a stub of the root while collecting it, and also to plant the aerial portion of the plant, after removing the roots. Yet, it was reported and also seen, that actually tribals take the plants from wild and plant them at convenient sites near to their villages. Similar practice has been adopted by Forest Department.

It is evident that the Mishmees were paying better attention to the crop of *Coptis teeta* before the ban on export, and therefore, a suitable management plan and export policy needs to be drawn to ensure continued interest of the local tribals in protecting and raising this plant.

V. Mudgal and S. K. Jain
Botanical Survey of India, Howrah

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ON MONOSTROSITY IN *ARGEMONE MEXICANA* L. (PAPAVERACEAE)

While studying the genus *Argemone* L. the authors have come across interesting specimen of *Argemone mexicana* L. collected by A. S. Bell 178, Banda, U.P. on 15.3.1901. Bell noted on his specimen "only one large plant thus found. None of the natives remember seeing a green Ghamoi*—before, a most curious green flowered specimen of the yellow Ghamoi."

Besides this, the specimen having green coloured flower, appeared to be a teratological variation, enlisted below:

(1) Flowers subtended by 2-foliaceous bracts.
(2) 2-foliaceous bracteoles present, about 2.8 cm long and 1.5 cm broad, ovate-acuminate.
(3) Petal green in colour, 4, spatulate, 3.1 3.3 cm long and 0.9-1.1 cm broad.
(4) Stamen 2.1 cm long, anther 0.5 cm long.
(5) Ovary linear-oblong, 5.3-5.6 cm long, 0.7 cm broad, stigma not sessile, style distinct about 0.5 cm long, stigma capitate.

The specimen is otherwise normal.

Usually teratological forms develop due to fungus or insect attacks. Teratology plays important role in the phylogenetic interpretations as stated by Worsdell (1915). The hereditary alteration of earlier stages in the evolution or padaemorphis is according to Takhtajan (1954) a major evolutionary process. *Argemone mexicana* L. with such a large ovary with prominent style & stigma could not miss the fertilization and hence the petals turn leafy.

It is clear that, this monostrosity in *Argemone mexicana* L. is not hereditarily fixed. But further observation of this type of monostrosities or recapitulation of plant organs may give clue to their phylogeny.

H. S. Debnath and M. P. Nayar
Botanical Survey of India, Howrah

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*Varnacular name of *Argemone mexicana* L.